Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

TITLE V (RENEWAL) NO. V-05-045
MODINE CLIMATE SYSTEMS, INC.
HARRODSBURG, KY
MARCH 2, 2006
COMPLETED BY: SREENIVAS KESARAJU, P.E.
SOURCE I.D. # 21-167-00014
SOURCE A.I. # 3153
ACTIVITY # APE20040001

SOURCE DESCRIPTION:

Modine Climate Systems, Inc. manufactures climate control systems and air-conditioning and heating components for automotive, truck, and off-highway vehicles. The heat exchangers are manufactured from both aluminum and copper at the Harrodsburg facility. The heat exchangers are made up of round tubes, plate fins, return bends, headers or endplates, fittings, and mounting brackets. The process starts by mechanically forming fins from sheet metals and cutting holes large enough to insert the round tubing. The round tubing can be inserted bent or straight. The tubes are mechanically expanded to form a mechanical bond between the tube and fins. Other connectors are soldered or brazed into place. The cleaning and painting occur after the heat exchanger is completely assembled in order to remove any oils and prevent corrosion of the heat exchanger.

DAQ acknowledges receipt on March 12, 2004, of a renewal Title V air quality permit application for the Modine Climate Systems, Inc., Harrodsburg facility. This represents the first renewal of the Title V air permit. The permit history is summarized as follows:

Document Name	Date Received	Summary
Title V Operating Permit Application Log # F833	12/12/96	Initial Title V air permit application to operate a manufacturing plant for industrial and commercial air conditioning and heating equipment at Harrodsburg, Kentucky
Title V Operating Permit V-97-016 Issued	11/30/99	Title V Air Permit issued for Modine Manufacturing Company, Harrodsburg facility
Title V Operating Permit Renewal Application Log #56408	03/12/04	Renewal Title V air permit application to operate a manufacturing plant for industrial and commercial air conditioning and heating equipment at Harrodsburg, Kentucky

The renewal Title V application was deemed complete on May 10, 2004.

COMMENTS:

The facility was issued permit V-97-016 on November 30, 1999. The facility is classified as a Title V major source of air pollution based on the potential to emit more than 25 tpy of a combination of HAP's.

Modine operates five Charge Test Booths, Emission Point 32, where certain products are charged with refrigerant and leak tested prior to further processing. Modine uses tetrafluoroethane HFC-134a as the refrigerant. HFC-134a is listed as a non-VOC in 401 KAR 50:010 Section 1(135). HFC-134a is not listed as a HAP per 401 KAR 63:060 Section 2. Therefore no emissions are accounted for from the Charge Test Booth operations.

One surface coating operation remains in service at Modine, the Electrocoat Paint Line. The two coating materials applied in the Electrocoat Paint Line contain glycol ethers. One of the glycol ethers, ethylene glycol monobutyl ether (EGBE) CAS# 111-76-2 has been delisted as a HAP by EPA on November 29, 2004 (69 FR 692988). Therefore emissions from this source have been adjusted accordingly. As of January 2, 2004 the Electrocoat Paint Line is subject to NESHAP 40 CFR 63 Subpart MMMM and is permitted as such.

Modine has removed two open-top degreasers, Emission Points 18 and 19, from the facilities degreasing operations. Therefore only one operable degreasing unit remains, Emission Point 17, the Conveyorized Vapor-cleaning Degreasing Unit.

Emission factors used to calculate source wide and individual unit emissions were derived either directly from AP-42 or MSDS forms. The exception to that is for the calculation of particulate emissions from welding, soldering, and brazing operations. This emission factor was derived from stack test results from a similar operation to that of the soldering, welding, hand brazing, etc. Therefore 0.092 lb PM per lb of material throughput is used when no specific emission factor is available to calculate particulate emissions.

The following is a list of significant emission units:

EP 03 (17)	Conveyorized Vapor Degreaser, construction commenced August, 1980
EP 06 (06,11,12)	Electrocoat Paint Line (E-Coat), construction commenced prior to February 4, 1981.
EP 14(35)	Copper Coil Brazing, construction commenced August, 1979
EP 24(40-42)	Evaporator Coal Brazing, construction commenced June, 1987

The affected facilities at the source are subject to Kentucky Regulations 401 KAR 63:020, 401 KAR 59:010, 401 KAR 59:015, and 401 KAR 61:015. Pursuant to 401 KAR 63:020, the source is required to conduct dispersion modeling to demonstrate potential emissions of trichloroethylene (TCE) do not exceed the EPA prioritized chronic dose response values (PRDV) referenced at http://www.epa.gov/ttn/atw/toxsource/table1.pdf.

Modine also operates several natural gas-fired boilers and process heaters that qualify as Insignificant Activities in accordance with 401 KAR 52:020, Section 6. These boilers and process heaters, all of which have a maximum heat input capacity of less than 10 mmBTU/hr, are listed affected facilities under 40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters. However, in accordance with §63.7506(c)(3), these sources are not subject to the initial notification requirements in §63.9(b) and are not subject to any requirements in Subpart DDDDD or Subpart A

of Part 63, including emission limits, work practice standards, performance testing, monitoring, SSM plans, site-specific monitoring plans, recordkeeping and reporting requirements.

EP 03 40 CFR 63 Subpart T, National Emission Standards for Hazardous Air Pollutants for Halogenated Solvent Cleaning applies to 2 degreasing units at this source. A carbon absorption unit (EP03) is used to control the emission of VOC and trichloroethylene from the degreasing unit. EP 17, installed August 1980, is classified as an automated batch vapor-cleaning unit.

EP 06 40 CFR 63 Subpart MMMM, National Emission Standards for Hazardous Air Pollutants from Surface Coating of Miscellaneous Metal Parts and Products was promulgated in January, 2004. EP06 consists of one electrodeposition coating unit (E-Coat) and 2 drying ovens. Multiple compliance options exist in Subpart MMMM. Since a control device is not in place for compliance with the MACT standard, two of these options conditionally apply to the E-Coat Paint Line. 1) The compliant material option in which coating materials contain no HAPs and 2) the emission rate without controls option in which the default emission limit of 2.6 pounds of volatile HAP per gallon of coating solids is met without the use of control equipment.

EP 14,24 401 KAR 59:010, New Process Operations, applies to these sources, with PM emissions limited in accordance with 401 KAR 59:010 Section 3(2), and visible emissions limited to less than 20 % opacity. Compliance assurance with the particulate and opacity limits is met by monitoring the process weight and hours of operation, calculating PM emissions, and conducting monthly qualitative visual observations. The original Title V permit (V-97-016) specified daily visible observations, however Modine noted that no visible emissions were observed during any of the daily observations, and submitted visual observation logs indicating zero visible emissions with the Title V renewal application. Therefore, the frequency has been relaxed to monthly for this renewal.

Regulations not applicable:

a. EP 03 Conveyorized Vapor Degreaser

i. 401 KAR 61:095 Existing Solvent Metal Cleaning Operations. This regulation only applies to those affected facilities located in a county or portion of a county designated ozone nonattainment (except marginal). Modine is located in a county designated as attainment for ozone.

ii. 401 KAR 59:185 New Solvent Metal Cleaning Equipment. The degreaser was constructed prior to June 24, 1992 and is therefore exempt from this regulation.

iii. 40 CFR 64 Compliance Assurance Monitoring (CAM). This source is exempt from the CAM provisions per §64.2(b)(i) since it is subject to emission limitations under 40 CFR 63 Subpart T, which is an emission limitation or standard proposed by the

Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act.

b. EP 06 E-Coat

i. 401 KAR 61:132 Existing miscellaneous metal parts and products surface coating operations. This regulation only applies to those affected facilities located in a county or portion of a county designated ozone nonattainment (except marginal). Modine is located in a county designated as attainment for ozone.

ii. 401 KAR 59:225 New miscellaneous metal parts and products surface coating operations. The E-Coat paint line was constructed prior to February 4, 1981 and is therefore exempt from this regulation.

iii. 40 CFR 64 Compliance Assurance Monitoring (CAM). Not applicable since no control devices are employed to meet an applicable emission limit.

c. EP 29 Natural Gas Fired Boiler 21A

i. 40 CFR 60 Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction was Commenced After August 17, 1971. Boiler 21A has a capacity of 7.3 mmBTU per hour, this is less than the minimum applicable capacity of 250 mmBTU per hour fossil fuel fired generators.

ii. 40 CFR 60 Subpart Da, Standards of Performance for Electric Utility Generators for Which Construction was Commenced After September 18, 1978. Boiler 21A is not used in the capacity of generating electricity.

iii. 40 CFR 60 Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. Boiler 21A has a capacity of 7.3 mmBTU per hour, which is less than the minimum applicable capacity of 100 mmBTU per hour.

iv. 40 CFR 60 Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. Boiler 21A has a capacity of 7.3 mmBTU per hour, which is less than the minimum applicable capacity of 10 mmBTU per hour.

v. 40 CFR 64 Compliance Assurance Monitoring (CAM). Not applicable since no control devices are employed to meet an applicable emission limit.

d. EP 28 Natural Gas Fired Boiler 21B

i. 40 CFR 60 Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction was Commenced After August 17, 1971. Boiler 21B has a capacity of 8.4 mmBTU per hour, this is less than the minimum applicable capacity of 250 mmBTU per hour fossil fuel fired generators.

ii. 40 CFR 60 Subpart Da, Standards of Performance for Electric Utility Generators for Which Construction was Commenced After September 18, 1978. Boiler 21B is not used in the capacity of generating electricity.

iii. 40 CFR 60 Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. Boiler 21B has a capacity of 8.4 mmBTU per

hour, which is less than the minimum applicable capacity of 100 mmBTU per hour.

iv. 40 CFR 60 Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. Boiler 21B has a capacity of 8.4 mmBTU per hour, which is less than the minimum applicable capacity of 10 mmBTU per hour.

v. 40 CFR 64 Compliance Assurance Monitoring (CAM). Not applicable since no control devices are employed to meet an applicable emission limit.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.